



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,318	07/30/2001	Joo Yeol Lee	P-217	8002

34610 7590 12/14/2004

FLESHNER & KIM, LLP
P.O. BOX 221200
CHANTILLY, VA 20153

EXAMINER

LEE, JOHN J

ART UNIT	PAPER NUMBER
----------	--------------

2684

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,318

Applicant(s)

LEE, JOO YEOL

Examiner

JOHN J LEE

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-12 and 14-35 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's arguments with respect to claims 1 – 32 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 2, 6-12, 15, 17, 18, and 20-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US Patent number 6,640,100) in view of Diepstraten et al. (US Patent number 5,410,738).

Regarding **claim 1**, Kojima discloses that an integrated wireless local loop (WLL) and wireless local area network (WLAN) transceiver (Fig. 2) apparatus which connects a wireless local loop base station (7 in Fig. 2) and a plurality of wireless local area network (WLAN) terminals (12 in Fig. 2) (Fig. 2, 3 and column 4, lines 59 – column 5, lines 65). Kojima teaches that a WLL transceiver section (8 in Fig. 2) adapted to connect to the WLL base station (7 in Fig. 2) to transmit and receive a radio signal to and from the WLL base station (7 in Fig. 2) (Fig. 2, 3 and column 5, lines 26 – 64, where teaches a repeater or PHS radio station includes WLL transceiver section for receiving/transmitting the radio signal from the WLL base station). Kojima teaches that a WLAN transceiver section (9 in Fig. 2) adapted to connect to the plurality of WLAN terminals (12 in Fig. 2) to transmit and receive a radio signal to and from the plurality of WLAN terminals (Fig.

2, 3 and column 5, lines 26 – 64, where teaches a repeater or PHS radio station includes WLAN transceiver section for receiving/transmitting the radio signal from the WLAN terminals). Kojima teaches that an antenna unit (9d or 8a in Fig. 3) for receiving the radio signal from the WLL base station (7 in Fig. 2) or the plurality of WLAN terminals (12 in Fig. 2) and separately applying the received radio signal to a corresponding processor of either the WLL transceiver section (8 in Fig. 2) or the WLAN transceiver section (9 in Fig. 2) (Fig. 2, 3 and column 5, lines 1 – 64, where teaches an antenna unit receives/transmits the radio signal from/to plurality of WLAN terminals, and an antenna unit transmits/receives the radio signal to/from WLL base station, and the repeater inherently has a processor (main controller) and each of WLL transceiver section and WLAN transceiver section has a processing section for processing the signals).

Kojima does not exactly disclose the limitation “processor of either the WLL transceiver section or the WLAN transceiver section”. However, Diepstraten discloses the limitation “processor of either the WLL transceiver section or the WLAN transceiver section” (Fig. 4, column 3, lines 61 – column 4, lines 51, where teaches the LAN station (repeater) has a WLAN processor (22 in Fig. 4) and other processor (24 in Fig. 4) for processing the radio signals). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Kojima system as taught by Diepstraten. Doing so would achieve enhancing controlling signal adaptability and the communication reliability in wireless communication system.

Regarding **claim 2**, Kojima and Diepstraten disclose the all the limitation, as discussed in claim 1. Furthermore, Kojima further discloses that a WLL reception

processing section (8 in Fig. 2) adapted to receive the radio signal from the WLL base station (7 in Fig. 2) and perform a predetermined reception process for the received radio signal for use in the integrated WLL and WLAN transceiver apparatus (Fig. 2, 3 and column 5, lines 1 – 67, where teaches WLL processing section receives radio signal from WLL base station and processing the signal for WLAN processing section). Kojima teaches that a LMDS transmission processing section (9 in Fig. 2) adapted to perform a predetermined transmission process for the radio signal to be transmitted to the WLL base station (Fig. 2, 3 and column 5, lines 1 – 67, where teaches WLAN processing section receives the radio signal from the terminals and processing to transmit the signal to WLL processing section for transmitting to WLL base station). Kojima teaches that a digital baseband processor (main controller) adapted to perform a digital signal process (DSP) for the radio signal applied thereto from the WLL reception processing section or the radio signal applied to the WLL transmission processing section therefrom (Fig. 2, 3 and column 5, lines 1 – 67).

Regarding **claim 6**, Kojima and Diepstraten disclose the all the limitation, as discussed in claim 1. Furthermore, Kojima further discloses that the integrated WLL and WLAN transceiver apparatus is included in a specific computer, and allows the specific computer to function as a server of the plurality of WLAN terminals (Fig. 2, 3 and column 5, lines 1 – 67).

Regarding **claim 7**, Kojima and Diepstraten disclose the all the limitation, as discussed in claim 1. Furthermore, Kojima further discloses that the integrated WLL and WLAN transceiver apparatus includes a duplexer and a triplexer in order to distribute and

apply the signals collected by the antennas to each of the WLL and WLAN transceiver sections (Fig. 2, 3 and column 5, lines 1 – column 6, lines 34).

Regarding **claim 8**, Kojima and Diepstraten disclose the all the limitation, as discussed in claim 1. Furthermore, Kojima further discloses that the plurality of WLAN terminals uses a WLAN radio transmitter included in the plurality of WLAN terminals (12 in Fig. 2) (Fig. 3, 4 and column 5, lines 1 – column 6, lines 34).

Regarding **claim 9**, Kojima and Diepstraten disclose the all the limitation, as discussed in claim 1. Furthermore, Kojima further discloses that the duplexer (9c in Fig. 3) is connected to the first antenna (9d in Fig. 3) used as a receive-only antenna (Fig. 3, 4 and column 5, lines 1 – column 6, lines 34).

Regarding **claim 10**, Kojima and Diepstraten disclose the all the limitation, as discussed in claim 1. Furthermore, Kojima further discloses that the antenna unit uses a space diversity antenna for preventing a fading phenomenon of a signal received through a multipath so that the first antenna and the second antenna of the diversity antenna are spaced apart from each other (Fig. 2, 3 and column 5, lines 1 – column 6, lines 34).

Regarding **claim 11**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 4. Furthermore, Kojima further discloses that the space diversity antenna is shared by the WLL transceiver section and the WLAN transceiver section (Fig. 2, 3 and column 5, lines 1 – column 6, lines 34).

Regarding **claim 12**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 2. Furthermore, Kojima further discloses that transmitting the data which has been subjected to a predetermined procedure in the WLL receiving

processor through a digital baseband processor and an MAC (could be anything because the limitation does not explain for MAC) to a WLAN transmitting processor (Fig. 2, 3 and column 5, lines 1 – 64, where teaches the repeater inherently has a processor (main controller) and each of WLL transceiver section and WLAN transceiver section has a processing section for processing the signals).

Regarding **claim 15**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 12.

Regarding **claim 17**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 7 and 9.

Regarding **claim 18**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 12. Furthermore, Kojima further discloses that a memory (not shown but inherently the repeater has a memory to store the data) storing data and instructions to enable the processing of data to conform to a WLL signaling scheme and to enable the processing of data to conform to a WLAN signaling scheme (column 4, lines 50 – column 5, lines lines 64 and Fig. 2, 3, where teaches judgment as to whether a call is generated by a fixed subscriber or mobile subscriber can easily be made referring to subscriber information prestored every time a call is made).

Regarding **claim 20**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 10.

Regarding **claim 21**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 7.

Regarding **claim 22**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 7 and 9.

Regarding **claims 23 and 28**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 2. Furthermore, Kojima further discloses that the WLL and WLAN transceiver comprises one or more of the elements from the group of AGC's, modulators, mixers, filters, D/A converters and power amplifiers (Fig. 2, 3 and column 5, lines 1 – 64).

Regarding **claims 24 and 29**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 4. Furthermore, Kojima further discloses that WLL and WLAN transceiver comprises one or more of the elements from the group of low noise amplifiers, AGC's, demodulators, mixers, filters, and A/D converters (Fig. 2, 3 and column 5, lines 1 – 64).

Regarding **claim 25**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 2.

Regarding **claim 26**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 7 and 21.

Regarding **claim 27**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 7 and 21.

Regarding **claim 30**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 18.

Regarding **claim 31**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 18. Furthermore, Kojima further discloses that the medium

access controller is further equipped to process the digital data for transfer to or from WLL transceiver (Fig. 2, 3 and column 5, lines 1 – 64).

Regarding **claim 32**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 12.

Regarding **claim 33**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 2.

Regarding **claim 34**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 2.

Regarding **claim 35**, Kojima and Diepstraten disclose the all the limitation, as discussed in claims 1 and 2.

4. **Claims 5, 14, 16, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima in view of Diepstraten and in further view of Archambaud et al. (US Patent number 6,304,560).

Regarding **claims 5, 14, 16, and 19**, Kojima and Diepstraten do not specifically disclose the limitation “the WLL transceiver section and the WLAN transceiver section share one phase locked loop (PLL) using a plurality of distributors”. However, Archambaud discloses the limitation “the WLL transceiver section and the WLAN transceiver section share one phase locked loop (PLL) using a plurality of distributors” (Fig. 3, 6 and column 6, lines 18 – column 7, lines 30, where teaches WLL base station (repeater could same function as WLL base station) has a digital a phase lock loop operations for eliminating drift and providing synchronization). It would have been

obvious to one having ordinary skill in the art at the time the invention was made to modify the Kojima and Diepstraten systems as taught by Archambaud. Doing so would enhance the signal adaptability and efficient adjustment for signal stability in wireless communication system.

Allowable Subject Matter

5. Claims 3, 4, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose “a WLAN reception and transmission processing section adapted to receive the radio signal from the plurality of WLAN terminals and digital baseband processor, and perform a predetermined reception and transmission process for the received radio signal for application to the digital baseband processor of the WLL transceiver section and for radio transmission to WLAN terminals, a medium access controller (MAC) adapted to supply the signal applied thereto from the digital baseband processor to the WLAN transmission processing section or supply the signal applied thereto from the WLAN reception processing section to the digital baseband processor of the WLL transceiver section, and also, a duplexer adapted to apply a radio signal received by a first antenna to the WLL reception processing section or the WLAN reception processing section, a triplexer adapted to apply a radio signal received by a second antenna to the WLL reception processing section or apply a signal supplied

thereto from the WLL transmission processing section or the WLAN transmission processing section to the second antenna ” as specified in the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Georges et al. (US Patent number 6,014,546) discloses Providing RF Distribution for Fixed Wireless Local Loop Service.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(703) 306-5936**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00

Art Unit: 2684

pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay Aung Maung**, can be reached on **(703) 308-7745**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L
December 7, 2004

John J Lee


NAY MAUNG
SUPERVISORY PATENT EXAMINER